AWIPS MODIFICATION NOTE 16, REVISION A (for Electronics Technicians)
Maintenance, Logistics, and Acquisition Division
W/OPS12: JCS

SUBJECT	:	AWIPS Digital Video Broadcast (DVB) Installation Procedures
PURPOSE	:	To provide instructions for installation of DVB capability
EQUIPMENT AFFECTED	:	The new equipment will interface with the current equipment at two points: IFL Splitter and 10/100 LAN port on the Satellite Broadcasting Network (SBN) Communications Processor (CP).
PARTS REQUIRED	:	DVB Field Modification Kit (FMK)
SPECIAL TOOLS REQUIRED	:	None
MODIFICATION PROCUREMENT	:	Issued by Northrop Grumman IT (NGIT)
EFFECTIVITY	:	All AWIPS WFOs and regional headquarters
ESTIMATED TIME REQUIRED	:	One hour
EFFECT ON OTHER INSTRUCTIONS	:	None. File in EHB-13, series II, section 5.1
AUTHORIZATION	:	The authority for this modification note is Request for Change AB551.
VERIFICATION STATEMENT	:	This modification was tested at the National Weather Service Headquarters and at Operational Acceptance Test (OAT) sites.
TECHNICAL SUPPORT	:	For questions or problems regarding these installation instructions or installing this modification, contact the NCF at 301-713-9344.

GENERAL

In order to enhance NWS operations, new sciences are being developed in the areas of atmospheric modeling, satellite imagery, radar processing, and interactive collaborative forecasting. The NWS currently uses a Satellite Broadcasting Network (SBN) employing T1 circuit technology to fill the demand for delivering the weather forecasting data at the existing science level to the field. We expect the demand for the new sciences in the field to increase the telecommunications requirements by more than 20 times by 2010. The current method for delivering this data to the field uses past industry standards that have become obsolete, and it is therefore inadequate for filling these demands.

The proposed solution is to replace the antiquated satellite T1 circuit technology with a scalable design that allows new science data to be delivered to the field as it becomes available, instead of having to wait for the delivery method to catch up to the delivery demand. We have determined through engineering analysis that new Digital Video Broadcast - Satellite (DVB-S) technology will help fulfill the data delivery need of the future. It will enable the system to meet OB4 SW/DATA requirements. If fully implemented, data rates of about 45 MB/sec could be obtained.

NOTE: PTWC sites (HFO/PBP/GUM) **must** perform the hardware installation procedures in Attachment F. These sites **should not** perform the procedures in section A.

Preparatory Steps

1. Receive and inventory DVB FMK. Verify received hardware against Site Receiving Report. Note any discrepancies, and immediately notify Jim Hoffman at Northrop Grumman IT (703-556-2787) of any shortages.

2. Sites should install the DVB hardware the week following the initial receipt. For example, sites receiving the hardware during the week of April 5, 2004, should install the equipment during the week of April 12.

3. Sites must coordinate the DVB installation with their regional or NCEP AWIPS focal point, who will schedule them using the Netscape calendar (http://calendar.netscape.com) set-aside for AWIPS software upgrades. Other National Centers or headquarters sites should schedule their upgrade with Sanford Garrard (sanford.garrard@noaa.gov) at WSH or schedule themselves using the calendar.

4. The NCF will support DVB installations at up to 8 sites per day, Monday through Thursday.

5. Contact the NCF at (301) 713-9344, just prior to the start of DVB equipment installation. The NCF will log in to the site's AWIPS and verify that data is being properly ingested on the current AWIPS SBN data feeds. The NCF will also query the SDR-54A demodulators to collect and record key performance parameters, including RSL, RBER, CSV, CMS, and Eb/No.

6. The following sites **must** contact the NCF prior to performing the DVB hardware installation in order to satisfy prerequisites:

   ACR, AFC, AJK, SJU, VRH, PBP, HFO, GUM

PROCEDURE

A. DVB Hardware Installation Procedures

NOTE: PTWC sites (HFO/PBP/GUM) **must not** perform the installation procedures outlined below. These sites **must** perform the procedures in Attachment F.

The following sites **must** contact the NCF prior to performing the DVB hardware installation in order to satisfy prerequisites:
ACR, AFC, AJK, SJU, VRH, PBP, HFO, GUM

Hardware installation consists of extending the Inter-Facility Link (IFL) cabling to new Digital Video Broadcast Receivers (DVBRs) and running LAN cabling from the DVBRs to the SBN CPs. Two DVBRs are installed in the SB rack of stand-alone sites. Four DVBRs are installed in the SB rack at RFCs: two for the RFC; and two for the collocated WFO.

1. Open the rear door of the SB rack. (For colocated systems, install the DVB hardware in the RFC SB rack.) Tie-wrap the Line Amp (NWS5494) to the left side of the IFL Splitter's mounting panel.

2. Tie-wrap the new IFL Splitter (Splitter 2) (NWS4546) to the right side of the IFL Splitter's mounting panel.

3. Ensure that the DC Block coupler is attached to the output connector of the Bandpass Filter and then place the filter assembly on the top shelf of the SB rack.

4. Remove the terminator from the first unused output port on the original IFL Splitter (Splitter 1) and connect wire SB1BW 3-5 (8-foot Coaxial cable, [NWS4146]) from that output port to the input port on the filter. For non-colocated sites, attach the terminator removed from Splitter 1 to Output port 4 on Splitter 2. For RFCs, place the terminator in a safe location for future use.

5. Connect wire SB1BW 3-11 (8-foot coaxial cable [NWS4146]) between the DC Block coupler (attached to the Output port of the filter) and the Input port on the Line Amp.

6 Connect the 2-foot coaxial cable (SB1BW 3-6, NWS5491) from the Output port on the Line Amp to the Input port on Splitter 2.

NOTE: At this point, the following sites must resume their installation procedures in the corresponding attachments. These sites **must not** perform the rest of the procedures outlined in section A.

NWSTC - Attachment C
BCQ/WNAR/WNAW - Attachment D
ACR/AFC/VRH - Attachment E

7. For non-colocated systems, place two Novra DVBRs (DVBR1-<*siteid*> and DBFR2-<*siteid*>) on the top shelf of the SB Rack. For colocated systems, place four DVBRs (DVBR1-<*rfcsiteid*>, DVBR2-<*rfcsiteid*>, DVBR1-<*wfositeid*>, and DVBR2-<*wfositeid*>) on the top shelf of the RFC's SB Rack.

8 Connect 8-foot coaxial cable SW1BW 3-7 (NWS4146) from Output port 1 on Splitter 2 to the Satellite RF Input port on DVBR1-<*siteid*>.

9. Connect 8-foot coaxial cable SW1BW 3-8 (NWS4146) from Output port 2 on Splitter 2 to the Satellite RF Input port of DVBR2-<*siteid*>.

10. For RFCs, connect 8-foot coaxial cable SW1BW 3-9 (NWS4146) from Output port 3 on Splitter 2 to the Satellite RF Input port of DVBR1-<*wfositeid*>.

11. For RFCs, connect 8-foot coaxial cable SW1BW 3-10 (NWS4146) from Output port 4 on Splitter 2 to the Satellite RF Input port of DVBR2-<*wfositeid*>.

12. Connect 10-foot LAN Cable SB1BW23 (NWS5525) from the Ethernet port of DVBR1-<*siteid*> to the 10/100 LAN port on CPSBN1.

13. Connect 10-foot LAN Cable SW1BW24 (NWS5525) from the Ethernet port of DVBR2-<*siteid*> to the 10/100 LAN port on CPSBN2.

14. For RFCs, connect 50-foot LAN Cable SW1BW25 (NWS5526) from the Ethernet port of DVBR1-<*wfositeid*> to the 10/100 LAN port on CPSBN1 of the colocated WFO.

15. For RFCs, connect 50-foot LAN Cable SW1BW269 (NWS5526) from the Ethernet port of DVBR2-<*wfositeid*> to the 10/100 LAN port on CPSBN2 of the colocated WFO.

16. Connect the power supply for DVBR1-<*siteid*> into receptacle 2 (counting from left to right) of Power Strip 1. If Power Strip 1 is a TripLite, connect the power supply into receptacle 1 on the bank of receptacles that face the front of the rack.

17. Connect the power supply for DVBR2-<*siteid*> into receptacle 2 of Power Strip 4. If Power Strip 4 is a TripLite, connect the power supply into receptacle 1 on the bank of receptacles that face the front of the rack.

18. For RFCs, connect the power supply for DVBR1-<*wfositeid*> into receptacle 4 (counting from left to right) of Power Strip 1. If Power Strip 1 is a TripLite, connect the power supply into receptacle 6 on the bank of receptacles that face the front of the rack.

19. For RFCs, connect the power supply for DVBR2-<*wfositeid*> into receptacle 4 (counting from left to right) of Power Strip 4. If Power Strip 4 is a TripLite, connect the power supply into receptacle 6 on the bank of receptacles that face the front of the rack.

B. Basic Checkout Procedure

1. After power is connected to each Novra DVBR, verify that the “Power” indicator light illuminates (steady red light). The “Signal” light should appear as a steady green light and the “Lock” light should also illuminate (steady green light).

NOTE: If the AWIPS DVB channel is not active at the Master Ground Station (for example, if it is down for testing), the “Signal” light will flash intermittently and the “Lock” light will not illuminate.

2. Contact the NCF (301-713-9344) and notify them that the DVB hardware has been installed. The NCF will reverify that AWIPS data is still being properly received from the existing standard AWIPS SBN channels. The NCF will also again query the SDR-54A demodulators to collect and record RSL, RBER, CSV, CMS, and Eb/No readings.

NOTE: This FMK pre-positions the hardware for the DVB full deployment. The data transition will occur later. The NCF will configure the CP to receive the DVB NWSTG data, but to discard the DVB data rather than forward it to the acqservers on the site Preprocessors and Data Servers. A future software release will use additional new DVB NWSTG data in operations.

REPORTING INSTRUCTIONS:

Report the completed modification using the Engineering Management Reporting System (EMRS) according to the instructions in NWS Instruction 30-2104, Maintenance Documentation, Part 4, Appendix F. Include the following information on the EMRS Report:

Block #	Block Type	Information
5	Description	Install Digital Video Broadcast (DVB) equipment
7	Equipment Code	AWIPS
8	Serial Number	001
15	Comments	Installed Digital Video Broadcast (DVB) equipment I.A.W. AWIPS Mod Note 16, Revision A.
17a	Mod. No.	16A

A sample EMRS report is provided as attachment A.

Signature Not Verified

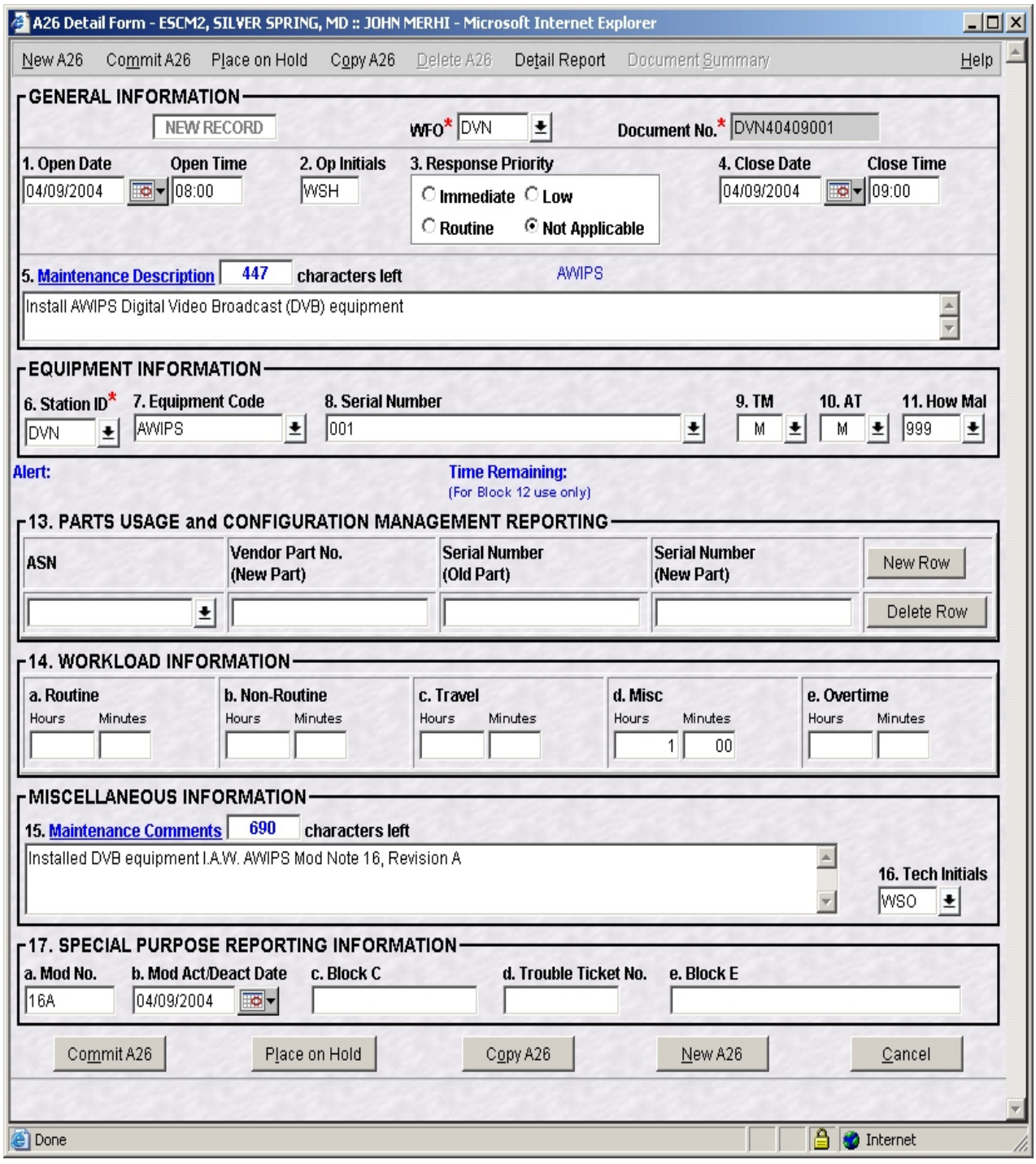
Mark S. Paese

Digitally signed by Mark S. Paese
DN: cn=Mark S. Paese, o=DOC/NOAA/NWS, c=US
Date: 2004.04.12 07:06:21 -04'00'

Mark S. Paese
Director, Maintenance, Logistics, and Acquisition Division

Attachment A - Sample EMRS Report
Attachment B - Kit Parts List
Attachment C - NWSTC Installation Procedures
Attachment D - BCQ/WNAR/WNAW Installation Procedures
Attachment E - ACR/AFC/VRH Installation Procedures
Attachment F - HFO/PBP/GUM Installation Procedures

Attachment A - Sample EMRS Report



Attachment B - Kit Parts List

Non-colocated sites

Part Number	Description	Qty
NWS5481	DVB Receiver	2
NWS4546	Cable Splitter, (Channel Master) COAX 1X4	1
NWS5494	NORSAT Line Amplifier	1
NWS5491	CBL, RG-59 COAX, 2 FT	1
NWS5490	75 OHM TERMINATOR	1
NWS5536	L-Band Filter	1
NWS5539	DC Block/Coupler	1
NWS4146	CBL, COAX, 8 FT	4
NWS5115	Cable, 10-Ft. 4-pr Assy Cat5E	2

RFC/WFO-colocated sites

Part Number	Description	Qty
NWS5481	DVB Receiver	4
NWS4546	Cable Splitter, (Channel Master) COAX 1X4	1
NWS5494	NORSAT Line Amplifier	1
NWS5491	CBL, RG-59 COAX, 2 FT	1
NWS5536	L-Band Filter	1
NWS5539	DC Block/Coupler	1
NWS4146	CBL, COAX, 8 FT	6
NWS5115	Cable, 10-Ft. 4-pr Assy Cat5E	2
NWS5113	Cable, 50 Ft. 10BaseT	2

Attachment C - NWSTC Installation Procedures

Perform steps 1 through 6 as presented in section A. Continue with the following steps:

1. Place eight Novra DVBRs (DVBR1-ntca, DVBR2-ntca, DVBR1-ntcb, DVBR2-ntcb, DVBR1-ntcc, DVBR2-ntcc, DVBR1-ntcd, and DVBR2-ntcd) on the top shelf of the NTCA SB Rack.
2. Connect SW1BW 3-7 (NWS4146), an 8-foot coaxial cable, from Output port 1 on Splitter 2 to the Satellite RF input port on DVBR1-ntca.
3. Connect SW1BW 3-8 (NWS4146), an 8-foot coaxial cable, from Output port 2 on Splitter 2 to the Satellite RF input port on DVBR2-ntca.
4. Connect SW1BW 3-9 (NWS4146), an 8-foot coaxial cable, from Output port 3 on Splitter 2 to the Satellite RF input port on DVBR1-ntcb.
5. Connect SW1BW 3-10 (NWS4146), an 8-foot coaxial cable, from Output port 4 on Splitter 2 to the Satellite RF input port on DVBR2-ntcb.
6. Connect SW1BW 3-16 (NWS4146), an 8-foot coaxial cable, from Output port 5 on Splitter 2 to the Satellite RF input port on DVBR1-ntcc.
7. Connect SW1BW 3-17 (NWS4146), an 8-foot coaxial cable, from Output port 6 on Splitter 2 to the Satellite RF input port on DVBR2-ntcc.
8. Connect SW1BW 3-18 (NWS4146), an 8-foot coaxial cable, from Output port 7 on Splitter 2 to the Satellite RF input port on DVBR1-ntcd.
9. Connect SW1BW 3-19 (NWS4146), an 8-foot coaxial cable, from Output port 8 on Splitter 2 to the Satellite RF input port on DVBR2-ntcd.
10. Connect SB1BW23 (NWS5525), a 10-foot LAN cable, from the Ethernet port of DVBR1-ntca to the 10/100 LAN port on CPSBN1-ntca.
11. Connect SB1BW24 (NWS5525), a 10-foot LAN cable, from the Ethernet port of DVBR2-ntca to the 10/100 LAN port on CPSBN2-ntca.
12. Connect SB1BW25 (NWS5526), a 50-foot LAN cable, from the Ethernet port of DVBR1-ntcb to the 10/100 LAN port on CPSBN1-ntcb.
13. Connect SB1BW26 (NWS5526), a 50-foot LAN cable, from the Ethernet port of DVBR2-ntcb to the 10/100 LAN port on CPSBN2-ntcb.
14. Connect SB1BW27 (NWS5526), a 50-foot LAN cable, from the Ethernet port of DVBR1-ntcc to the 10/100 LAN port on CPSBN1-ntcc.
15. Connect SB1BW28 (NWS5526), a 50-foot LAN cable, from the Ethernet port of DVBR2-ntcc to the 10/100 LAN port on CPSBN2-ntcc.

16. Connect SB1BW30 (NWS5526), a 50-foot LAN cable, from the Ethernet port of DVBR1-ntcd to the 10/100 LAN port on CPSBN1-ntcd.

17. Connect SB1BW31 (NWS5526), a 50-foot LAN cable, from the Ethernet port of DVBR2-ntcd to the 10/100 LAN port on CPSBN2-ntcd.

NOTE: The following steps identify which power strip receptacles to use to provide power to the DVB Receivers. If the specified receptacles are not available then use any available receptacles on Power Strips 1 and 2 for DVBR1s and on power strips 3 and 4 for DVBR2s.

18. Connect the power supply for DVBR1-ntca into receptacle 1 of the bank of receptacles facing the front of the rack on power strip #1 (top-most in rack).

19. Connect the power supply for DVBR2-ntca into receptacle 1 of the bank of receptacles facing the front of the rack on power strip #4 (below power strip #1).

20. Connect the power supply for DVBR1-ntcb into receptacle 6 of the bank of receptacles facing the front of the rack on power strip #1.

21. Connect the power supply for DVBR2-ntcb into receptacle 6 of the bank of receptacles facing the front of the rack on power strip #4.

22. Connect the power supply for DVBR1-ntcc into receptacle 3 of the bank of receptacles facing the front of the rack on power strip #1.

23. Connect the power supply for DVBR2-ntcc into receptacle 3 of the bank of receptacles facing the front of the rack on power strip #4.

24. Connect the power supply for DVBR1-ntcd into receptacle 4 of the bank of receptacles facing the front of the rack on power strip #1.

25. Connect the power supply for DVBR2-ntcd into receptacle 4 of the bank of receptacles facing the front of the rack on power strip #4.

Attachment D - BCQ/WNAR/WNAW Installation Procedures

Perform steps 1 through 6 as presented in section A. Continue with the following steps:

1. Install an equipment shelf in WNAR's CP rack. Position the shelf directly above the VIR switch panel.
2. Place six Novra DVBRs (DVBR1-WNAR, DVBR2-WNAR, DVBR1-WNAW, DVBR2-WNAW, DVBR1-BCQ, and DVBR2-BCQ) on the shelf just installed in the WNAR CP rack.
3. Connect SW1BW 3-7 (NWS4146), an 8-foot coaxial cable, from Output port 1 on Splitter 2 to the Satellite RF input port on DVBR1-WNAR.
4. Connect SW1BW 3-8 (NWS4146), an 8-foot coaxial cable, from Output port 2 on Splitter 2 to the Satellite RF input port on DVBR2-WNAR.
5. Connect SW1BW 3-9 (NWS4146), an 8-foot coaxial cable, from Output port 3 on Splitter 2 to the Satellite RF input port on DVBR1-WNAW.
6. Connect SW1BW 3-10 (NWS4146), an 8-foot coaxial cable, from Output port 4 on Splitter 2 to the Satellite RF input port on DVBR2-WNAW.
7. Connect SW1BW 3-16 (NWS4146), an 8-foot coaxial cable, from Output port 5 on Splitter 2 to the Satellite RF input port on DVBR1-BCQ.
8. Connect SW1BW 3-17 (NWS4146), an 8-foot coaxial cable, from Output port 6 on Splitter 2 to the Satellite RF input port on DVBR2-BCQ.
9. Connect SB1BW23 (NWS5525), a 10-foot LAN cable, from the Ethernet port of DVBR1-WNAR to the 10/100 LAN port on CPSBN1-WNAR.
10. Connect SB1BW24 (NWS5525), a 10-foot LAN cable, from the Ethernet port of DVBR2-WNAR to the 10/100 LAN port on CPSBN2-WNAR.
11. Connect SB1BW25 (NWS5526), a 50-foot LAN cable, from the Ethernet port of DVBR1-WNAW to the 10/100 LAN port on CPSBN1-WNAW.
12. Connect SB1BW26 (NWS5526), a 50-foot LAN cable, from the Ethernet port of DVBR2-WNAW to the 10/100 LAN port on CPSBN2-WNAW.
13. Connect SB1BW27 (NWS5525), a 10-foot LAN cable, from the Ethernet port of DVBR1-BCQ to the media converter providing a communication path to CPSBN1-BCQ.
14. Connect SB1BW28 (NWS5525), a 10-foot LAN cable, from the Ethernet port of DVBR2-BCQ to the media converter providing a communication path to CPSBN2-BCQ.
15. Connect the power supply for DVBR1-WNAR into an available receptacle on the right-hand power strip of the WNAR CP rack.

16. Connect the power supply for DVBR2-WNAR into an available receptacle on the left-hand power strip of the WNAR CP rack.
17. Connect the power supply for DVBR1-WNAW into an available receptacle on the right-hand power strip of the WNAR CP rack.
18. Connect the power supply for DVBR2-WNAW into an available receptacle on the left-hand power strip of the WNAR CP rack.
19. Connect the power supply for DVBR1-BCQ into an available receptacle on the right-hand power strip of the WNAR CP rack.
20. Connect the power supply for DVBR2-BCQ into an available receptacle on the left-hand power strip of the WNAR CP rack.
21. Connect SB1BW32 (NWS5115), a 10-foot LAN cable, from the media converter in the BCQ SB rack to the10/100 LAN port on CPSBN1-BCQ.
22. Connect SB1BW33 (NWS5115), a 10-foot LAN cable, from the media converter in the BCQ SB rack to the10/100 LAN port on CPSBN2-BCQ.

Attachment E - ACR/AFC/VRH Installation Procedures

Perform steps 1 through 6 as presented in section A. Continue with the following steps:

1. Place six Novra DVBRs (DVBR1-ACR, DVBR2-ACR, DVBR1-AFC, DVBR2-AFC, DVBR1-VRH, and DVBR2-VRH) on the top shelf of the ACR SB Rack.
2. Connect SW1BW 3-7 (NWS4146), an 8-foot coaxial cable, from Output port 1 on Splitter 2 to the Satellite RF input port on DVBR1-ACR.
3. Connect SW1BW 3-8 (NWS4146), an 8-foot coaxial cable, from Output port 2 on Splitter 2 to the Satellite RF input port on DVBR2-ACR.
4. Connect SW1BW 3-9 (NWS4146), an 8-foot coaxial cable, from Output port 3 on Splitter 2 to the Satellite RF input port on DVBR1-AFC.
5. Connect SW1BW 3-10 (NWS4146), an 8-foot coaxial cable, from Output port 4 on Splitter 2 to the Satellite RF input port on DVBR2-AFC.
6. Connect SW1BW 3-16 (NWS4146), an 8-foot coaxial cable, from Output port 5 on Splitter 2 to the Satellite RF input port on DVBR1-VRH.
7. Connect SW1BW 3-17 (NWS4146), an 8-foot coaxial cable, from Output port 6 on Splitter 2 to the Satellite RF input port on DVBR2-VRH.
8. Connect SB1BW23 (NWS5525), a 10-foot LAN cable, from the Ethernet port of DVBR1-ACR to the 10/100 LAN port on CPSBN1-ACR.
9. Connect SB1BW24 (NWS5525), a 10-foot LAN cable, from the Ethernet port of DVBR2-ACR to the 10/100 LAN port on CPSBN2-ACR.
10. Connect SB1BW25 (NWS5526), a 50-foot LAN cable, from the Ethernet port of DVBR1-AFC to the 10/100 LAN port on CPSBN1-AFC.
11. Connect SB1BW26 (NWS5526), a 50-foot LAN cable, from the Ethernet port of DVBR2-AFC to the 10/100 LAN port on CPSBN2-AFC.
12. Connect SB1BW27 (NWS5526), a 50-foot LAN cable, from the Ethernet port of DVBR1-VRH to the 10/100 LAN port on CPSBN1-VRH.
13. Connect SB1BW28 (NWS5526), a 50-foot LAN cable, from the Ethernet port of DVBR2-VRH to the 10/100 LAN port on CPSBN2-VRH.
14. Connect the power supply for DVBR1-ACR into receptacle 2 (counting from left to right) of power strip #1 (top-most in rack)
15. Connect the power supply for DVBR2-ACR into receptacle 1 of the bank of receptacles facing the front of the rack of power strip #4 (located beneath power strip #1)
16. Connect the power supply for DVBR1-AFC into receptacle 4 of power strip #1.
17. Connect the power supply for DVBR2-AFC into receptacle 6 of the bank of receptacles facing the front of the rack of power strip #4.

18. Connect the power supply for DVBR1-VRH into an available receptacle on power strip #1. It may be necessary to relocate the rack fan plug to a different receptacle to accommodate the DVBR power supply.

19. Connect the power supply for DVBR2-VRH into receptacle 3 of the bank of receptacles facing the front of the rack of power strip #4.

Attachment F - HFO/PBP/GUM Installation Procedures

Kit Parts List (specific to HFO/PBP/GUM)

Part Number	Description	Qty
NWS5481	DVB RECEIVER	6
NWS4690	Cable Splitter, (Channel Master) COAX 1X8	1
NWS5494	NORSAT LINE AMPLIFIER	1
NWS5491	CBL, RG-59 COAX, 2 FT	1
NWS5490	75 OHM TERMINATOR	2
NWS5536	L-Band Filter	1
NWS5539	DC Block/Coupler	1
NWS4146	CBL, COAX, 8 FT	8
NWS5115	Cable, 10-Ft. 4-pr Assy Cat5E	6
NWS2834	IFL Splitter Panel	1

A. DVB Hardware Installation Procedures

Hardware installation consists of extending the Inter-Facility Link (IFL) cabling to new Digital Video Broadcast Receivers (DVBRs), and running LAN cabling from the DVBRs to the SBN CPs. Two DVBRs are installed in the SB rack of stand-alone sites. Four DVBRs are installed in the SB rack at RFCs: two for the RFC; and two for the colocated WFO.

1. Open the rear door of rack 1 at PTWC and locate the existing IFL Splitter Panel.

2. Mount the new IFL Splitter Panel, with IFL Splitter #2 (NWS4546) and the Line Amp (NWS 5494), to the rear rack rails between the Xyplex and CPSBN1.

3. Ensure that the DC Block coupler is attached to the output connector of the Bandpass Filter and then place the filter assembly on the top of rack 1 near the wall.

4. Remove the terminator from the unused output port on the original IFL Splitter (Splitter 1) and connect wire SB1BW 3-5 (8-foot coaxial cable [NWS4146]) from that output port to the input port on the filter. Route cable through the cable access hole in the rack top.

5. Connect wire SB1BW 3-11 (8-foot coaxial cable [NWS4146]) between the DC Block coupler (attached to the output port of the filter) and the input port on the Line Amp. Route cable through the cable access hole in the rack top.

6. Connect the 2-foot coaxial cable (SB1BW 3-6, NWS5491) from the Output port on the Line Amp to the Input port on Splitter 2.

7. Place the Novra DVBRs (DVBR1-HFO, DVBR2-HFO, DVBR1-PBP, DVBR2-PBP, DVBR1-GUM, and DVBR2-GUM) on top of the rack corresponding to the site ID affixed to the DVBR (two receivers per rack).

8. Connect SW1BW 3-7 (NWS4146), an 8-foot coaxial cable, from Output port 1 on Splitter 2 to the Satellite RF input port on DVBR1-HFO.

9. Connect SW1BW 3-8 (NWS4146), an 8-foot coaxial cable, from Output port 2 on Splitter 2 to the Satellite RF input port on DVBR2-HFO.

10. Connect SW1BW 3-9 (NWS4146), an 8-foot coaxial cable, from Output port 3 on Splitter 2 to the Satellite RF input port on DVBR1-PBP.

11. Connect SW1BW 3-10 (NWS4146), an 8-foot coaxial cable, from Output port 4 on Splitter 2 to the Satellite RF input port on DVBR2-PBP.

12. Connect SW1BW 3-16 (NWS4146), an 8-foot coaxial cable, from Output port 5 on Splitter 2 to the Satellite RF input port on DVBR1-GUM.

13. Connect SW1BW 3-17 (NWS4146), an 8-foot coaxial cable, from Output port 6 on Splitter 2 to the Satellite RF input port on DVBR2-GUM.

14. Connect SB1BW23 (NWS5525), a 10-foot LAN cable, from the Ethernet port of DVBR1-HFO to the 10/100 LAN port on CPSBN1-HFO.

15. Connect SB1BW24 (NWS5525), a 10-foot LAN cable, from the Ethernet port of DVBR2-HFO to the 10/100 LAN port on CPSBN2-HFO.

16. Connect SB1BW25 (NWS5525), a 10-foot LAN cable, from the Ethernet port of DVBR1-PBP to the 10/100 LAN port on CPSBN1-PBP.

17. Connect SB1BW26 (NWS5525), a 10-foot LAN cable, from the Ethernet port of DVBR2-PBP to the 10/100 LAN port on CPSBN2-PBP.

18. Connect SB1BW27 (NWS5525), a 10-foot LAN cable, from the Ethernet port of DVBR1-GUM to the 10/100 LAN port on CPSBN1-GUM.

19. Connect SB1BW28 (NWS5525), a 10-foot LAN cable, from the Ethernet port of DVBR2-GUM to the 10/100 LAN port on CPSBN2-GUM.

20. Connect the power supply for DVBR1-HFO into a receptacle of the power strip that CPSBN1 is plugged into.

21. Connect the power supply for DVBR2-HFO into a receptacle of the power strip that CPSBN2 is plugged into.

22. Connect the power supply for DVBR1-PBP into a receptacle of the power strip that CPSBN1 is plugged into.

23. Connect the power supply for DVBR2-PBP into a receptacle of the power strip that CPSBN2 is plugged into.

24. Connect the power supply for DVBR1-GUM into a receptacle of the power strip that CPSBN1 is plugged into.
25. Connect the power supply for DVBR2-GUM into a receptacle of the power strip that CPSBN2 is plugged into.

This ends the DVB hardware installation procedures for PTWC sites. Proceed to section B on page 6 of this modification note for basic checkout procedures.